

## CLAIMS

Having thus described the aforementioned invention, we claim:

1           1.     A cabinet for enclosing a controller, said controller being subject to  
2     arcing, which produces arc gasses, said cabinet comprising:

3           a plurality of walls enclosing said controller;

4           a roof panel connected to said plurality of walls;

5           an exhaust vent for discharging built up gasses generated during an arc  
6     fault event;

7           a floor panel connected to said plurality of walls; and

8           a door for accessing said controller and maintaining integrity of said  
9     cabinet during said arc fault event.

1           2.     The cabinet of Claim 1 further comprising:

2           a first dimple in a first surface selected from one of said roof panel, said  
3     floor panel, one of said plurality of walls, and a structural member; and

4           a second dimple in a second surface selected from one of said roof panel,  
5     said floor panel, one of said plurality of walls, and said structural member, said  
6     second dimple adapted to mate with said first dimple, said first dimple secured  
7     to said second dimple.

1           3.     The cabinet of Claim 2 further comprising

2           a first opening in said first surface and disposed adjacent to said first  
3     dimple;

4           a second opening in said second surface and in register with said first  
5     opening when said first dimple is mated with said second dimple; and

6           a fastener disposed in said first opening and said second opening, said  
7     fastener securely mating said first and second dimples.

1           4.     The cabinet of Claim 1 further comprising a baffle for isolating a  
2 first volume of said cabinet from a second volume of said cabinet, said baffle  
3 connected to at least two of said plurality of walls.

1           5.     The cabinet of Claim 1 further comprising a flap covering said  
2 exhaust vent, said flap adapted to open and allow said arc gasses to escape.

1           6.     The cabinet of Claim 5 further comprising a hinge connecting said  
2 flap to said cabinet.

1           7.     The cabinet of Claim 1 further comprising:  
2                 a first member disposed parallel to one of said plurality of walls;  
3                 a second member connecting said first member to said one of said  
4 plurality of walls;  
5                 a hinge connecting said door to one of said first member, said second  
6 member, and said one of said plurality of walls;  
7                 a channel attached to said door and extending over said hinge, said  
8 channel adapted for receiving an edge of said first member, said edge opposite  
9 said second member; and  
10                a resilient seal disposed between said edge and said channel.

1           8.     The cabinet of Claim 7 further comprising a latching mechanism  
2 for releasably securing said door in a closed position, said latch mechanism  
3 including a plurality of latch hooks and a strike assembly receiving said  
4 plurality of latch hooks such that said door remains sealed during said arcing.

1           9.     The cabinet of Claim 1 further comprising:  
2                 an opening bounded by a wall edge of one of said plurality of walls;

an access panel having a first surface and a first panel edge with a protruding member extending toward said wall edge; and

a resilient seal disposed between said first surface of said access panel and said wall edge.

10. The cabinet of Claim 1 further comprising:

an opening bounded by a first edge of one of said plurality of walls and by a second edge of another one of said plurality of walls;

an access panel having a first surface, a first panel edge with a first protruding member extending toward said first edge, and a second panel edge with a second protruding member extending toward said second edge,

a first resilient seal disposed between said first surface of said access panel and said first edge; and

a second resilient seal disposed between said second surface of said access panel and said second edge.

11. A cabinet for enclosing a controller, said controller being subject to arcing, which produces arc gasses, said cabinet comprising:

a plurality of walls enclosing said controller;

a roof panel connected to said plurality of walls;

a floor panel connected to said plurality of walls;

an exhaust vent for discharging said arc gasses;

a flap covering said exhaust vent, said flap adapted to open and allow said arc gasses to escape;

a hinge connecting said flap to said cabinet;

a door for accessing said controller;

11 a latching mechanism for releasably securing said door in a closed  
12 position, said latch mechanism including a plurality of latch hooks and a strike  
13 assembly receiving said plurality of latch hooks such that said door remains  
14 sealed during said arcing;

15 a first member disposed parallel to one of said plurality of walls;

16 a second member connecting said first member to said one of said  
17 plurality of walls;

18 a hinge connecting said door to one of said first member, said second  
19 member, and said one of said plurality of walls;

20 a channel attached to said door and extending over said hinge, said  
21 channel adapted for receiving an edge of said first member; and

22 a resilient door seal disposed between said edge and said channel.

1 12. The cabinet of Claim 11 further comprising:

2 an opening bounded by a first edge of one of said plurality of walls and by  
3 a second edge of another one of said plurality of walls;

4 an access panel having a first surface, a first panel edge with a first  
5 protruding member extending toward said first edge, and a second panel edge  
6 with a second protruding member extending toward said second edge,

7 a first resilient seal disposed between said first surface of said access  
8 panel and said first edge; and

9 a second resilient seal disposed between said second surface of said  
10 access panel and said second edge.

1 13. The cabinet of Claim 11 further comprising:

2 a first dimple in a first surface selected from one of said roof panel, said  
3 floor panel, one of said plurality of walls, and a structural member; and

4 a second dimple in a second surface selected from one of said roof panel,  
5 said floor panel, one of said plurality of walls, and said structural member, said  
6 second dimple adapted to mate with said first dimple.

1 14. The cabinet of Claim 13 further comprising:

2 a first opening in said first surface and disposed adjacent to said first  
3 dimple;

4 a second opening in said second surface and in register with said first  
5 opening when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said  
7 fastener securely mating said first and second dimples.

1 15. The cabinet of Claim 11 further comprising a baffle for isolating a  
2 first volume of said cabinet from a second volume of said cabinet, said baffle  
3 connected to at least two of said plurality of walls.

1 16. A cabinet for enclosing a controller, said controller being subject to  
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 an opening bounded by a first edge of one of said plurality of walls and by  
5 a second edge of another one of said plurality of walls;

6 an access panel having a first surface, a first panel edge with a first  
7 protruding member extending toward said first edge, and a second panel edge  
8 with a second protruding member extending toward said second edge,

9 a first resilient seal disposed between said first surface of said access  
10 panel and said first edge; and

11 a second resilient seal disposed between said second surface of said  
12 access panel and said second edge.

1 17. A cabinet for enclosing a controller, said controller being subject to  
2 arcing, which produces arc gasses, said cabinet comprising:

3 a door for accessing said controller, said door including

4 a latching mechanism for releasably securing said door in a closed  
5 position, said latch mechanism including a plurality of latch hooks and a strike  
6 assembly receiving said plurality of latch hooks such that said door remains  
7 sealed during said arcing;

8 a first member disposed parallel to one of said plurality of walls;

9 a second member connecting said first member to said one of said  
10 plurality of walls;

11 a hinge connecting said door to one of said first member, said second  
12 member, and said one of said plurality of walls;

13 a channel attached to said door and extending over said hinge, said  
14 channel adapted for receiving an edge of said first member; and

15 a resilient door seal disposed in said channel for sealing a gap between  
16 said edge and said channel.

1 18. A cabinet for enclosing a controller, said controller being subject to  
2 arcing, said cabinet comprising:

3 a plurality of members supporting a plurality of components in said  
4 controller and including a first member and a second member;

5 a first dimple formed in said first member; and

6 a second dimple formed in said second member and cooperating with  
7 said first dimple.

1 19. The cabinet of Claim 18 further comprising

2 a first opening in said first member and disposed adjacent to said first  
3 dimple;

4 a second opening in said second member and in register with said first  
5 opening when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said  
7 fastener securing said first dimple to said second dimple.

1 20. A cabinet for enclosing a controller, said controller being subject to  
2 arcing, which produces arc gasses, said cabinet comprising:

3 a plurality of walls enclosing said controller;

4 a baffle for isolating a first volume of said cabinet from a second volume  
5 of said cabinet, said baffle connected to at least two of said plurality of walls,  
6 said first volume containing said arc gasses.

1 21. The cabinet of Claim 20 further comprising:

2 a first dimple in one of said plurality of walls; and

3 a second dimple in said baffle, said second dimple adapted to mate with  
4 said first dimple.

1 22. The cabinet of Claim 21 further comprising

2 a first opening in said one of said plurality of walls and disposed adjacent  
3 to said first dimple;

4 a second opening in said baffle and in register with said first opening  
5 when said first dimple is mated with said second dimple; and

6 a fastener disposed in said first opening and said second opening, said  
7 fastener securing said first dimple to said second dimple.

23. A cabinet for enclosing a controller, said controller being subject to arcing, which produces arc gasses, said cabinet comprising:

a means for enclosing said controller;

a means for accessing said controller through a door;

a means for sealing said door to prevent the release of said arc gasses from inside said cabinet;

a means for securing said door.

24. The cabinet of Claim 23 further comprising a means for venting said arc gasses from inside said cabinet.

25. The cabinet of Claim 23 further comprising a means for accessing said cabinet through a removable panel.

26. The cabinet of Claim 23 further comprising a means for connecting a pair of surfaces of said cabinet.

27. The cabinet of Claim 23 further comprising a means for isolating a first volume of said cabinet from a second volume of said cabinet.